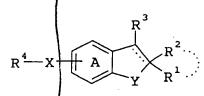
CLAIMS

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A compound of the formula:



- wherein R¹ and R² each represents a hydrogen atom or a hydrocarbon group which may be substituted, or R¹ and R² form, taken together with the adjacent carbon atom, a 3- to 8-membered carbo or heterocyclic ring which may be substituted;
- 10 R³ represents a hydrogen atom, a lower alkyl which may be substituted or an aromatic group which may be substituted;

 R^4 represents (1) an aromatic group which may be substituted, (2) an aliphatic hydrocarbon group substituted by an aromatic group which may be

- substituted by an aromatic group which may be substituted, which hydrocarbon group may be further substituted or (3) an acyl;
 - X and Y each represents an oxygen atom or a sulfur atom which may be oxidized;
- 20 ____ represents a single bond or a double bond; and ring A represents a benzene ring which may be further substituted apart from the group of the formula: -X-R4 wherein each symbol is as defined above,
- provided that when X and Y are oxygen atoms and $\frac{---}{}$ is a single bond, R' is not an acyl,

or a salt thereof.

- 2. A compound of claim 1, wherein R^1 and R^2 each is (i) a hydrogen atom or
- (ii) a C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₆

 cycloalkyl or C₆₋₁₄ aryl group which may be substituted by 1 to 5 substituents selected from the group consisting of (1) halogen atoms, (2) C₁₋₃ alkylenedioxy, (3) nitro, (4) cyano, (5) optionally halogenated C₁₋₆ alkyl, (6) optionally halogenated C₂₋₆ alkenyl, (7)

optionally halogenated C_{2-6} Alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl/ (9) C_{6-14} aryl, (10) optionally halogenated $C_1/_6$ alkoxy, (11) optionally halogenated C_{1-6} alkylthi ϕ , (12) hydroxy, (13) amino, (14) mono- C_{1-6} alkylamin ϕ , (15) mono- C_{6-14} arylamino, (16) 5 $di-C_{1-6}$ alkylamino, (17)/ $di-C_{6-14}$ arylamino, (18) acyl selected from the group consisting of formyl, carboxy, carbamoyl, C_{1-6} alkyl- ϕ arbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkylcarbonyl, C6-14 aryloxy-carbonyl, C7-16 aralkyloxy-10 carbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoy $\frac{1}{4}$, di- C_{1-6} alkyl-carbamoyl, C_{6-14} arylcarbamoyl, 5- or θ -membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6} , arylsulfonyl, C_{1-6} alkylsulfinyl and 15 C_{6-14} arylsulfinyl, (19) acylamino selected from the group consisting of formylamino, C₁₋₆ alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} arylsulfonylamino, (20) acyloxy selected from the group consisting of C1-6 20 alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono-C1-6 alkyl-carbamoyloxy, di-C1-6 alkylcarbamoyloxy, C_{6-14} aryl-carbamoyloxy and nicotinoyloxy, (21) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected from the 25 group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (22) 5- to 10membered ardmatic heterocyclic group and (23) sulfo, or R^1 and R^2 form, taken together with the adjacent carbon atom, a C3-8 cycloalkane or a 3- to 8-membered heterocyclic ring, each of which may be substituted by 30 1 to 3 substituents selected from the group consisting of C_{1-6} alkyL, C_{6-14} aryl, C_{7-16} aralkyl, amino, mono- C_{1-6} alkylamino, mono-C₆₋₁₄ arylamino, di-C₁₋₆ alkylamino, di-C₆₋₁₄ arylamino and 5- to 10-membered aromatic 35 heterocyclic group; R³ is (i) a hydrogen atom,

(ii) a C_{1-6} alkyl which may be substituted by 1 to 5 substituents selected from the group consisting of (1) halogen atoms, (2) C_{1-3} althylenedioxy, (3) nitro, (4) cyano, (5) optionally halogenated C_{1-6} alkyl, (6) optionally halogenated ϕ_{2-6} alkenyl, (7) optionally 5 halogenated C_{2-6} alkynyl (8) optionally halogenated C_{3-6} cycloalkyl, (9) C_{6-14} ar ψ l, (10) optionally halogenated C_{1-6} alkoxy, (11) optionally halogenated C_{1-6} alkylthio, (12) hydroxy, (13) amino, (14) mono- C_{1-6} alkylamino, (15) mono- C_{6-14} arylamiho, (16) di- C_{1-6} alkylamino, (17) 10 di-C₆₋₁₄ arylamino, (18) acyl selected from the group consisting of formyl / carboxy, carbamoyl, C_{1-6} alkylcarbonyl, C3-6 cycloa kyl-carbonyl, C1-6 alkoxy-carbonyl, C_{6-14} aryl-carbonyl, d_{7-16} aralkyl-carbonyl, C_{6-14} aryloxycarbonyl, C7-16 aralk loxy-carbonyl, 5- or 6-membered 15 heterocycle carbony $\frac{1}{4}$, mono- C_{1-6} alkyl-carbamoyl, di- C_{1-6} alkyl-carbamoyl, $C_6 \downarrow_4$ aryl-carbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (19) acylamino selected from the group consisting of 20 formylamino, C₁₋₆ alkyl-carboxamido, C₆₋₁₄ arylcarboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} arylsulfonylamino, (20) acyloxy selected from the group consisting of C_{1-6} 25 alkyl-carbonyloxy, C6-14 aryl-carbonyloxy, C1-6 alkoxycarbonyloxy, mono- C_{1-6} alkyl-carbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C_{6-14} aryl-carbamoyloxy and nicotinoyloxy, (21) 5- to 7-membered saturated cyclic amino which may be substituted by |1 to 3 substituents selected from the group consisting ϕf C_{1-6} alkyl, C_{6-14} aryl and 5- to 10-30 membered aromatic heterocyclic group, (22) 5- to 10membered aromatic heterocyclic group and (23) sulfo, or (iii) a C_{6-14} aryl pr a 5- to 14-membered aromatic heterocyclic group containing 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur 35 and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 to 3 substituents

selected from the group consisting of (1) halogen atoms, (2) C_{1-3} alkylenedioxy, (3) nitro, (4) cyano, (5) optionally halogenated C_{1-6} alkyl, (6) optionally halogenated C_{2-6} alkenyl, (7) optionally halogenated C_{2-6} alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl, (9) 5 optionally halogenated C_{1-6} alkoxy, (10) optionally halogenated C_{1-6} alkylthio, (11) hydroxy, (12) amino, (13) mono- C_{1-6} alkylamino, (14) di- C_{1-6} alkylamino, (15) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected from the 10 group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (16) acyl selected from the group consisting of formyl, carboxy, carbamoyl, C_{1-6} alkyl-carbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkyl-15 carbonyl, C_{6-14} aryloxy-carbonyl, C_{7-16} aralkyloxycarbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoyl, $di-C_{1-6}$ alkyl-carbamoyl, C_{6-14} arylcarbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} 20 alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (17) acylamino selected from the group consisting of formylamino, C1-6 alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} arylsulfonylamino, (18) 25 acyloxy selected from the group consisting of C_{1-6} alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono- C_{1-6} alkyl-carbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C_{6-14} aryl-carbamoyloxy and nicotinoyloxy, (19) sulfo, (20) C_{6-14} aryl and (21) C_{6-14} aryloxy; R^4 is (i) a C_{6-14} aryl or a 5- to 14-membered aromatic 30 heterocyclic group containing 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 to 3 substituents 35 selected from the group consisting of (1) halogen atoms, (2) C₁₋₃ alkylenedioxy, (3) nitro, (4) cyano, (5)

optionally halogenated C_{1-6} alkyl, (6) optionally

halogenated C_{2-6} alkenyl, (7) optionalyly halogenated C_{2-6} alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl, (9) optionally halogenated C_{1-6} alkoxy./(10) optionally halogenated C_{1-6} alkylthio, (11) hydroxy, (12) amino, (13) mono- C_{1-6} alkylamino, (14) $d_1 - C_{1-6}$ alkylamino, (15) 5 5- to 7-membered saturated cycl/ic amino which may be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alkyl/ C_{6-14} aryl and 5- to 10membered aromatic heterocycl#c group, (16) acyl selected from the group consisting of formyl, carboxy, 10 carbamoyl, C_{1-6} alkyl-carbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aralkyl-carbonyl, C_{7-16} aralkylcarbonyl, C6-14 aryloxy-carbonyl, C7-16 aralkyloxycarbonyl, 5- or 6-member d heterocycle carbonyl, mono-15 C_{1-6} alkyl-carbamoyl, di-carbamoyl, C_{6-14} arylcarbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} ary sulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (17) acylamino selected from the group consisting of $f_{prmylamino}$, C_{1-6} alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} 20 alkylsulfonylamino $ahd C_{6-14}$ arylsulfonylamino, (18) acyloxy selected fr ϕ m the group consisting of C_{1.6} alkyl-carbonyloxy, c_{6-14} aryl-carbonyloxy, c_{1-6} alkoxycarbonyloxy, mono- $\phi_{\text{1-6}}$ alkyl-carbamoyloxy, di- $C_{\text{1-6}}$ alkyl-25 carbamoyloxy, $C_{6-14}/\text{aryl-carbamoyloxy}$ and nicotinoyloxy, (19) sulfo, (20) ϕ_{6-14} aryl and (21) C_{6-14} aryloxy, (ii) an aliphatic hydrocarbon group selected form the group consisting/of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl and C_{3-6} cycloalk 1, which hydrocarbon group substituted 30 by 1 to 3 C_{6-14} atyl or 5- to 14-membered aromatic heterocyclic gr ϕ up containing 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 to 3 substituents selected from the group consisting of (1) halogen atoms, 35 (2) C_{1-3} alkylehedioxy, (3) nitro, (4) cyano, (5) optionally halogenated C1-6 alkyl, (6) optionally

halogenated C_{2-6} alkenyl, (7) optionally halogenated C_{2-6} alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl, (9) optionally halogenated C_{1-6} alkoxy/, (10) optionally halogenated C_{1-6} alkylthio, (11) hydroxy, (12) amino, (13) mono- C_{1-6} alkylamino, (14) $\triangle i-C_{1-6}$ alkylamino, (15) 5 5- to 7-membered saturated cyc/lic amino which may be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alky $/\!\!\!\!/$, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (16) acyl 10 selected from the group consisting of formyl, carboxy, carbamoyl, C_{1-6} alkyl-carbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkylcarbonyl, C_{6-14} aryloxy-carbonyl, C_{7-16} aralkyloxycarbonyl, 5- or 6-membered heterocycle carbonyl, mono-15 C_{1-6} alkyl-carbamoyl, $d_{7}^{4}-C_{1-6}$ alkyl-carbamoyl, C_{6-14} arylcarbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} a $\not=$ ylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (1/7) acylamino selected from the group consisting of/formylamino, C₁₋₆ alkyl-carboxamido, 20 C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamin ϕ and C_{6-14} arylsulfonylamino, (18) acyloxy selected from the group consisting of C, 6 alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono-C1-6 alkyl-carbamoyloxy, di-C1-6 alkyl-25 carbamoyloxy, C/6-14 aryl-carbamoyloxy and nicotinoyloxy, (19) sulfo, $(2\emptyset)$ C_{6-14} aryl and (21) C_{6-14} aryloxy, which hydrocarbon group may be further substituted by 1 to 5 substituents selected from the group consisting of (1) halogen dtoms, (2) C_{1-3} alkylenedioxy, (3) nitro, 30 (4) cyano, (5) optionally halogenated C_{1-6} alkyl, (6) optionally Halogenated C2.6 alkenyl, (7) optionally halogenated C_{2-6} alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl / (9) C_{6-1} , aryl, (10) optionally halogenated C_{1-6} alkoxy/ (11) optionally halogenated C_{1-6} alkylthio, 35 (12) hydroxy, (13) amino, (14) mono- C_{1-6} alkylamino, (15) mono C_{6-14} arylamino, (16) di- C_{1-6} alkylamino, (17) di-C6-14 arylamino, (18) acyl selected from the group

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consisting of formyl, carboxy, carbamoyl, C1-6 alkylcarbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkyl-carbonyl, C_{6-14} aryloxycarbonyl, C7-16 aralkyloxy-carbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} a/1kyl-carbamoyl, di- C_{1-6} 5 alkyl-carbamoyl, C6-14 aryl-carbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alk $\sqrt[4]{lsulfonyl}$, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (19) acylamino selected from the group consisting of formylamino, C_{1-6} alkyl-carboxamido, C_{6-14} aryl-10 carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} /arylsulfonylamino, (20) acyloxy selected from the group consisting of C1-6 alkyl-carbonyloxy, C_{6-14} ar 1-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono- C_{1-6} alk/1-carbamoyloxy, di- C_{1-6} alkyl-15 carbamoyloxy, C₆₋₁₄ aryl-carbamoyloxy and nicotinoyloxy, (21) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to $oldsymbol{eta}$ substituents selected from the group consisting of C_1 alkyl, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (22) 5- to 10membered aromatic heterocyclic group and (23) sulfo, or (iii) an acyl of the $formula: -(C=O)-R^5$, $-(C=O)-OR^5$, $-(C=O)-NR^5R^6$, $-(C=S)-NHR^5$, $-SO_2-R^{5a}$ or $-SO_-R^{5a}$ wherein R⁵ is (a) a hydrogen atom, (b) a C_{6-14} aryl or a 5- to 14-membered aromatic heterocyclic group containing 1 to 4 hetero atoms selected from the group consisting of nitrogen, sulfur and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 to 3 substituents selected from the group consisting of (1) halogen atoms, (2) C_{1-3} alkylened p(3) nitro, (4) cyano, (5) optionally halogenated C_{1-6} alkyl, (6) optionally halogenated C_{2-6} Alkenyl, (7) optionally halogenated C_{2-6} alkynyl, (8) optionally halogenated C_{3-6} cycloalkyl, (9) optionally halo ϕ enated C_{1-6} alkoxy, (10) optionally halogenated C_{1-6} alkylthio, (11) hydroxy, (12) amino,

(13) mono- C_{1-6} alkylamino, (14) di- C_{1-6} alkylamino, (15)

5- to 7-membered saturated cyclic /amino which may be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alkyl, $C_{6}/_{14}$ aryl and 5- to 10membered aromatic heterocyclic group, (16) acyl selected from the group consisting of formyl, carboxy, 5 carbamoyl, C_{1-6} alkyl-carbonyl, c_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl- ϕ arbonyl, C_{7-16} aralkylcarbonyl, C_{6-14} aryloxy-carbony1, C_{7-16} aralkyloxycarbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoyl, $di-C_{1-6}$ akyl-carbamoyl, C_{6-14} aryl-10 carbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (17) acy/amino selected from the group consisting of formyl/amino, C_{1-6} alkyl-carboxamido, C_{6-14} aryl-carboxamido, $C_{1-6}/alkoxy$ -carboxamido, C_{1-6} 15 alkylsulfonylamino and $C_6/_{14}$ arylsulfonylamino, (18) acyloxy selected from the group consisting of C_{1-6} alkyl-carbonyloxy, C6-14 aryl-carbonyloxy, C1-6 alkoxycarbonyloxy, mono- C_{1-6} a kyl-carbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C_{6-14} aryl/carbamoyloxy and nicotinoyloxy, 20 (19) sulfo, (20) C_{6-14} aryl and (21) C_{6-14} aryloxy, or (c) a C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl or C_{3-6} cycloalkyl group which may be substituted by 1 to 5 substituents selected from the group consisting of (1) 25 C_{6-14} aryl or 5- to 14/-membered aromatic heterocyclic group containing 1 t/0 4 hetero atoms selected from the group consisting of/nitrogen, sulfur and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 t ϕ 3 substituents selected from the group consisting of (1') halogen atoms, (2') C_{1-3} 30 alkylenedioxy, (3') nitro, (4') cyano, (5') optionally halogenated C_{1-6} alkyl, (6') optionally halogenated C_{2-6} alkenyl, (7') opt β onally halogenated C_{2-6} alkynyl, (8') optionally halogenated C3-6 cycloalkyl, (9') optionally halogenated C_{1-6} alkoxy, (10') optionally halogenated C_{1-6} 35 $_{6}$ alkylthio, (11) hydroxy, (12) amino, (13) mono- C_{1-6} alkylamino, (14') di- C_{1-6} alkylamino, (15') 5- to 7-

membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alkyl, C_{6-14} aryl/and 5- to 10membered aromatic heterocyclic group, (16') acvl 5 selected from the group consisting of/formyl, carboxy, carbamoyl, C_{1-6} alkyl-carbonyl, C_{3-6} cycloalkyl-carbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkylcarbonyl, C_{6-14} aryloxy-carbonyl, C_{16} aralkyloxycarbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoyl, $di-C_{1-6}$ alky \not l-carbamoyl, C_{6-14} aryl-10 carbamoyl, 5- or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (17') acylamino selected from the group consisting of formylamino, C_{1-6} alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} Alkoxy-carboxamido, C_{1-6} 15 alkylsulfonylamino and C_{6-1} arylsulfonylamino, (18') acyloxy selected from the group consisting of C_{1-6} alkyl-carbonyloxy, C6-14 dryl-carbonyloxy, C1-6 alkoxycarbonyloxy, mono- C_{1-6} a/kyl-carbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C6-14 aryl/carbamoyloxy and nicotinoyloxy, 20 (19') sulfo, (20') $C_{6-\frac{1}{4}}$ aryl and (21') C_{6-14} aryloxy, (2) halogen atoms, (3) $C_{1}/_{3}$ alkylenedioxy, (4) nitro, (5) cyano, (6) optionally halogenated C_{1-6} alkyl, (7) optionally halogenated C2-6 alkenyl, (8) optionally 25 halogenated C_{2-6} alkynyl, (9) optionally halogenated C_{3-6} cycloalkyl, (10) optionally halogenated C1-6 alkoxy, (11) optionally halogenated C_{1-6} alkylthio, (12) hydroxy, (13) amino, (14) $mono-C_{1-6}$ alkylamino, (15) di- C_{1-6} alkylamino, (16)/5- to 7-membered saturated cyclic 30 amino which may/be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10-membered aromatic heterocyclic group, (17) acyl selected from the group consisting of formyl, carboxy, carbamoyl, C1-6 alkyl-carbonyl, C3-6 cycloalkylcarbonyl, $C_{1-6}/alkoxy$ -carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} 35 aralkyl-carbdnyl, C₆₋₁₄ aryloxy-carbonyl, C₇₋₁₆ aralkyloxy-carbonyl, 5- or 6-membered heterocycle

carbonyl, mono- C_{1-6} alkyl-carbamoy $\cancel{1}$, di- C_{1-6} alkylcarbamoyl, C_{6-14} aryl-carbamoyl, 5/2 or 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (18) acylamino selected from the group consisting of 5 formylamino, C_{1-6} alkyl-carboxamido, C_{6-14} arylcarboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} Arylsulfonylamino, (19) acyloxy selected from the g_{1-6} consisting of C_{1-6} alkyl-carbonyloxy, C_{6-14} ary 1-carbonyloxy, C_{1-6} alkoxy-10 carbonyloxy, mono- C_{1-6} alky1-carbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C6-14 aryl-carbamoyloxy and nicotinoyloxy and (20) sulfo; R^{5a} is (a) a C_{6-14} aryl or/a 5- to 14-membered aromatic heterocyclic group containing 1 to 4 hetero atoms 15 selected from the group consisting of nitrogen, sulfur and oxygen atoms in addition to carbon atoms, each of which may be substituted by 1 to 3 substituents selected from the $\mathrm{gr}\phi\mathrm{up}$ consisting of (1) halogen atoms, 20 (2) C_{1-3} alkylenedioxy, (3) nitro, (4) cyano, (5) optionally halogena/ted C_{1-6} alkyl, (6) optionally halogenated C_{2-6} all enyl, (7) optionally halogenated C_{2-6} alkynyl, (8) optionally halogenated C3-6 cycloalkyl, (9) optionally haloge ated C_{1-6} alkoxy, (10) optionally halogenated C_{1-6} alkylthio, (11) hydroxy, (12) amino, 25 (13) mono- C_{1-6} alkylamino, (14) di- C_{1-6} alkylamino, (15) 5- to 7-membere ϕ saturated cyclic amino which may be substituted by / to 3 substituents selected from the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10-30 membered aromatic heterocyclic group, (16) acyl selected from/the group consisting of formyl, carboxy, carbamoyl, $C_1/_6$ alkyl-carbonyl, C_{3-6} cycloalkyl-carbonyl, C₁₋₆ alkoxy-carbonyl, C₆₋₁₄ aryl-carbonyl, C₇₋₁₆ aralkylcarbonyl, $C_6/_{14}$ aryloxy-carbonyl, C_{7-16} aralkyloxycarbonyl, 5 f or 6-membered heterocycle carbonyl, mono-35 C_{1-6} alkyl-carbamoyl, C_{1-6} alkyl-carbamoyl, C_{6-14} arylcarbamoyl, \int_{5-}^{5-} or 6-membered heterocycle carbamoyl, C_{1-6}

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alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C₆₋₁₄ arylsulfinyl, (17) acylamino selected from the group consisting of formylamino, $/C_{1-6}$ alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} aryl/sulfonylamino, (18) 5 acyloxy selected from the group consisting of C_{1-6} alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono- C_{1-6} alkyl- c_{1} arbamoyloxy, di- C_{1-6} alkylcarbamoyloxy, C6-14 aryl-carbamoyloxy and nicotinoyloxy, (19) sulfo, (20) C_{6-14} aryl and (21) C_{6-14} aryloxy, or 10 (b) a C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl or C_{3-6} cycloalkyl group which may be substituted by 1 to 5 substituents selected from the group consisting of (1) a C₆₋₁₄ aryl or 5- to 14-membered aromatic heterocyclic group containing 1 to 4/hetero atoms selected from the group consisting of nifrogen, sulfur and oxygen atoms in addition to carbon/atoms, each of which may be substituted by 1 to 3 substituents selected from the group consisting of /(1') halogen atoms, (2') C_{1-3} alkylenedioxy, (3')/nitro, (4') cyano, (5') optionally halogenated C_{1-6} alkyl, (6') optionally halogenated C_{2-6} alkenyl, (7') opti/onally halogenated C_{2-6} alkynyl, (8') optionally halogenated C3-6 cycloalkyl, (9') optionally halogenated C_{1-6} alkoxy, (10') optionally halogenated C_{1-6} $_{6}$ alkylthio, (11) hydroxy, (12') amino, (13') mono- C_{1-6} alkylamino, (14 $\frac{1}{2}$) di-C₁₋₆ alkylamino, (15 $\frac{1}{2}$) 5- to 7membered saturated cyclic amino which may be substituted by /1 to 3 substituents selected from the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (16') acyl selected from the group consisting of formyl, carboxy, carbamoyl, C_1/ϵ alkyl-carbonyl, $C_{3-\epsilon}$ cycloalkyl-carbonyl, C_{1-6} alkoxy-cdrbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkylcarbonyl, C_{6} aryloxy-carbonyl, C_{7-16} aralkyloxycarbonyl, 5- or 6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoyl, $di-C_{1-6}$ alkyl-carbamoyl, C_{6-14} arylcarbamoyl, \$- or 6-membered heterocycle carbamoyl, C_{1-6}

alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, (17') acylamino selected from the group consisting of formylamino, $C_{1/6}$ alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfonylamino and C_{6-14} arylsulfonylamino, (18') 5 acyloxy selected from the group ϕ onsisting of C_{1-6} alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, mono-C₁₋₆ alkyl-carbamoyloxy, di-C₁₋₆ alkylcarbamoyloxy, C_{6-14} aryl-carbamoyloxy and nicotinoyloxy, (19') sulfo, (20') C_{6-14} aryl and (21') C_{6-14} aryloxy, (2) 10 halogen atoms, (3) C_{1-3} alkylenedioxy, (4) nitro, (5) cyano, (6) optionally halogenated C_{1-6} alkyl, (7) optionally halogenated C_{2-6} /alkenyl, (8) optionally halogenated C_{2-6} alkynyl, ($\not >$) optionally halogenated C_{3-6} cycloalkyl, (10) optionally halogenated C_{1-6} alkoxy, 15 (11) optionally halogena/ted C_{1-6} alkylthio, (12) hydroxy, (13) amino, (14) mono- C_{1-6} alkylamino, (15) di- C_{1-6} alkylamino, (16) 5- to/7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected from the group consisting of C_{1-6} alkyl, C_{6-14} 20 aryl and 5- to 10-membered aromatic heterocyclic group, (17) acyl selected from the group consisting of formyl, carboxy, carbamoyl, C_{1-6} alkyl-carbonyl, C_{3-6} cycloalkylcarbonyl, C_{1-6} alkoxy-carbonyl, C_{6-14} aryl-carbonyl, C_{7-16} aralkyl-carbonyl, C_{6-14} aryloxy-carbonyl, C_{7-16} 25 aralkyloxy-carbon/1, 5- or 6-membered heterocycle carbonyl, mono- $C_1/_6$ alkyl-carbamoyl, di- C_{1-6} alkylcarbamoyl, C6-14 aryl-carbamoyl, 5- or 6-membered heterocycle car ϕ amoyl, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, 30 (18) acylamino/selected from the group consisting of formylamino, C_{1-6} alkyl-carboxamido, C_{6-14} arylcarboxamido, $\phi_{\scriptscriptstyle 1-6}$ alkoxy-carboxamido, $C_{\scriptscriptstyle 1-6}$ alkylsulfonylamino and C_{6-14} arylsulfonylamino, (19) 35 acyloxy seledted from the group consisting of C_{1-6} alkyl-carbonyloxy, C_{6-14} aryl-carbonyloxy, C_{1-6} alkoxycarbonyloxy, $mono-C_{1-6}$ alkyl-carbamoyloxy, $di-C_{1-6}$ alkyl-

carbamoyloxy, C6-14 aryl-carbamoyloxy and nicotinoyloxy and (20) sulfo; and R^6 is a hydrogen atom or a C_{1-6} Alkyl; and ring A is a benzene ring which may be further 5 substituted by 1 to 3 substituents selected from the group consisting of (1) haldgen atoms, (2) C_{1-3} alkylenedioxy, (3) nitro, (4) cyano, (5) optionally halogenated C_{1-6} alkyl, (6)/optionally halogenated C_{2-6} alkenyl, (7) optionally halogenated C2-6 alkynyl, (8) optionally halogenated C/6 cycloalkyl, (9) optionally 10 halogenated C_{1-6} alkoxy, /(10) optionally halogenated C_{1-6} alkylthio, (11) hydrox \oint , (12) amino, (13) mono- C_{1-6} alkylamino, (14) di- C_1/ϵ alkylamino, (15) 5- to 7membered saturated cyclic amino which may be 15 substituted by 1 to \$\beta\$ substituents selected from the group consisting of $/C_{1-6}$ alkyl, C_{6-14} aryl and 5- to 10membered aromatic heterocyclic group, (16) acyl selected from the group consisting of formyl, carboxy, carbamoyl, C1-6 alkyl-carbonyl, C3-6 cycloalkyl-carbonyl, C_{1-6} alkoxy-carbon/1, C_{6-14} aryl-carbonyl, C_{7-16} aralkyl-20 carbonyl, C6-14 aryloxy-carbonyl, C7-16 aralkyloxycarbonyl, 5- or /6-membered heterocycle carbonyl, mono- C_{1-6} alkyl-carbamoyl, C_{1-6} alkyl-carbamoyl, C_{6-14} arylcarbamoyl, 5- ϕ r 6-membered heterocycle carbamoyl, C_{1-6} alkylsulfonyl, $\int C_{6-14}$ arylsulfonyl, C_{1-6} alkylsulfinyl and 25 C₆₋₁₄ arylsulfihyl, (17) acylamino selected from the group consisting of formylamino, C₁₋₆ alkyl-carboxamido, C_{6-14} aryl-carboxamido, C_{1-6} alkoxy-carboxamido, C_{1-6} alkylsulfony amino and C₆₋₁₄ arylsulfonylamino, (18) acyloxy selected from the group consisting of C1-6 30 alkyl-carbodyloxy, C6-14 aryl-carbonyloxy, C1-6 alkoxycarbonyloxy, mono-C₁₋₆ alkyl-carbamoyloxy, di-C₁₋₆ alkylcarbamoyloxy, C6-14 aryl-carbamoyloxy and nicotinoyloxy, (19) sulfo (20) C₆₋₁₄ aryl and (21) C₆₋₁₄ aryloxy. 35 A compound of Claim 1, wherein R1 and R2 each is a C_{1-6} alkyl which may be substituted, or R^1 and R^2 form, taken together with the adjacent carbon atom, a 3- to

8-membered carbo or heterocyclic ring which may be substituted.

substituted.

4. A compound of Claim 1, AR3 is an aromatic group which may be substituted.

- A compound of Claim 1, wherein R⁴ is (i) an aliphatic hydrocarbon group substituted by an aromatic group which may be substituted, which hydrocarbon group may be further substituted or (ii) an acyl.
- 6. A compound of Chaim 1, wherein X is an oxygen atom.
- 7. A compound of Plaim 1, wherein Y is an oxygen atom.
- 8. A compound of Claim 7, wherein a group of the formula: $-X-R^4$ is substituted on the 5-position of the benzofuran ring.
- 9. A compound of Claim 1, which is a compound of the formula:

$$R^{4} \times \underbrace{\begin{array}{c} 5 \\ A \\ Y \\ 1 \end{array}} R^{2}$$

wherein each symbol is as defined in Claim 1, or a salt thereof.

A compound of Claim 1, wherein Ri and Re each is a 10. C1-6 alkyl which may be substituted by 1 to 3 substituents selected from the group consisting of (1) C_{6-14} aryl, (2) C_{1-6} alkoxy/(3) C_{1-6} alkylthio, (4) \gtrsim hydroxy, (5) amino, (6) mono- C_{1-6} alkylamino, (7) mono- C_{6-14} arylamino, (8) O_{1-6} alkylamino, (9) O_{6-14} arylamino, (10) carboxy, (11) C₁₋₆ alkylsulfonyl, (12) C_{6-14} arylsulfonyl, (13) C_{1-6} alkylsulfinyl, (14) C_{6-14} arylsulfinyl and (15) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected form the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5/ to 10-membered aromatic group, or R^1 and R^2 form, taken together with the adjacent carbon atom, a β - to 8-membered carbo or heterocyclic ring which may be substituted by 1 to 3 substituents

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selected form the group consisting of C_{1-6} alkyl, C_{6-14} aryl, C_{7-16} aralkyl and 5- to 10-membered aromatic heterocyclic group;

R³ is a phenyl, 1-naphthyl, 2-naphthyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, 2-quinolyl, 3-quinolyl, 1-isoquinolyl 1-indolyl, 2-indolyl or 2-benzothiazolyl group, each of which may be substituted by 1 to 3 substituents selected from the group consisting of (1) halogen atoms, (2) C₁₋₆ alkyl, (3) C₁₋₆

alkoxy, (4) mono- C_{1-6} alkylamino, (5) di- C_{1-6} alkylamino and (6) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents selected form the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10-membered aromatic group;

R⁴ is (i) C₁₋₆ alkyl substituted by a phenyl, 1-naphthyl, 2-naphthyl, 2-thienyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, 2-quinolyl, 3-quinolyl, 1-isoquinolyl, 1-indolyl, 2-indolyl or 2-benzothiazolyl group, each of which may be substituted by 1 to 3 substituents selected from the group consisting of (1) halogen atoms,

(2) C_{1-6} alkyl, (3) C_{1-6} alkoxy, (4) hydroxy, (5) amino, (6) mono- C_{1-6} alkylamino, (7) di- C_{1-6} alkylamino, (8) carboxy and (9) 5- to 7-membered saturated cyclic amino which may be substituted by 1 to 3 substituents

selected form the group consisting of C_{1-6} alkyl, C_{6-14} aryl and 5- to 10-membered aromatic group, which C_{1-6} alkyl may be further substituted by carboxy or C_{1-6} alkoxy-carbonyl, or

(ii) a C₁₋₆ alkyl-carbonyl, C₃₋₆ cycloalkyl-carbonyl, C₆₋₁₄
aryl-carbonyl or C₇₋₁₆ aralkyl-carbonyl group, each of which may be substituted by 1 to 3 substituents selected from the group consisting of halogen atoms, C₁₋₆ alkyl, C₁₋₆ alkoxy, hydroxy, amino, mono-C₁₋₆ alkylamino, di-C₁₋₆ alkylamino and carboxy;

35 X is an oxygen atom;
Y is an oxygen atom; and

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ring A is a benzene ring which may be further substituted by 1 to 3 substituents selected from the group consisting of halogen atoms, optionally halogenated C_{1-6} alkyl, optionally halogenated C_{1-6} alkyl, amino, mono- C_{1-6} alkylamino and di- C_{1-6}

alkylamino.

11. A compound of Claim 1, wherein R^1 and R^2 each is a C_{1-6} alkyl which may be substituted by 1 to 3 substituents selected from the group consisting of C_{6-14}

aryl, C_{1-6} alkoxy, C_{1-6} alkylthio, hydroxy, amino, mono- C_{1-6} alkylamino, mono- C_{6-14} arylamino, di- C_{1-6} alkylamino, carboxy, C_{1-6} alkylsulfonyl, C_{6-14} arylsulfonyl, C_{1-6} alkylsulfinyl and C_{6-14} arylsulfinyl, or

15 R^1 and R^2 form, taken together with the adjacent carbon atom, a piperidine which may be substituted by 1 to 3 substituents selected form the group consisting of C_{1-6} alkyl, C_{6-14} aryl and C_{7-16} aralkyl;

 R^3 is a phenyl which may be substituted by 1 to 3 substituents selected from the group consisting of halogen atoms, C_{1-} alkyl, C_{1-6} alkoxy, amino, mono- C_{1-6} alkylamino and di- C_{1-6} alkylamino;

 R^4 is (i) C_{1-6} alkyl substituted by a phenyl or pyridyl, each of which may be substituted by 1 to 3 substituents selected from the group consisting of halogen atoms,

 C_{1-6} alkyl, C_{1-6} alkoxy, hydroxy, amino, mono- C_{1-6} alkylamino, di- C_{1-6} alkylamino and carboxy, or (ii) an acyl of the formula: -(C=0)-R⁵ wherein R⁵ is a phenyl or phenyl- C_{1-6} alkyl, each of which may be

substituted by 1 to 3 substituents selected from the group consisting of halogen atoms, C_{1-6} alkyl, C_{1-6} alkoxy, hydroxy, amino, mono- C_{1-6} alkylamino, di- C_{1-6} alkylamino and carboxy;

X is an oxygen atom;

Y is an oxygen atom; and ring A is a benzene ring which may be further

or

substituted by 1 to 3 substituents selected from the group consisting of halogen atoms, optionally halogenated C_{1-6} alkyl, optionally halogenated C_{1-6} alkoxy, amino, mono- C_{1-6} alkylamino and di- C_{1-6} alkylamino.

12. A compound of Claim 1 which is a compound of the formula:

$$R^{4} \longrightarrow \{ \begin{bmatrix} A' \\ Q \end{bmatrix} \begin{bmatrix} R^{3} \\ R^{1} \end{bmatrix} \}$$

wherein R^1 and R^2 each is C_{1-6} alkyl which may be substituted by 6-membered saturated cyclic amino substituted by a phenyl, or R^1 and R^2 form, taken together with the adjacent carbon atom, a piperidine substituted by a C_{1-6} alkyl or a C_{7-16} aralkyl;

15 R³ is (i) a hydrogen atom, or

(ii) a phenyl which may be substituted by 1 to 3
substituents selected from the group consisting of (1)

C₁₋₆ alkyl, (2) di-C₁₋₆ alkylamino and (3) 6-membered
saturated cyclic amino which may be substituted by a

20 C₁₋₆ alkyl,

 R^4 is (i) a phenyl which may be substituted by 1 to 3 substituents selected from the group consisting of nitro and C_{1-6} alkyl-carboxamido, (ii) a C_{1-6} alkyl or C_{2-6} alkenyl group substituted by 1 to 3 of phenyl,

quinolyl or pyridyl, each of which may be substituted by 1 to 3 substituents selected from the group consisting of C₁₋₆ alkoxy, C₁₋₆ alkylthio, C₁₋₆ alkoxy-carbonyl, C₁₋₆ alkylsulfonyl and C₁₋₆ alkylsulfinyl, which C₁₋₆ alkyl or C₂₋₆ alkenyl group may be further substituted by a phenyl, carboxy or C₁₋₆ alkoxy-carbonyl,

(iii) an acyl of the formula: $-(C=0)-R^{5}$ ' wherein R^{5} ' is phenyl substituted by a C_{1-6} alkoxy; and

ring A' is benzene ring which may be further substituted by 1 to 3 C₁₋₆ alkyl.

13, A compound of Claim 1 which is

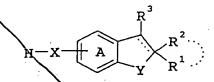
3-(4-isopropylphenyl)-5-(4-methoxybenzyloxy)-2,2,4,6,7-pentamethyl-2,3-dilydrobenzofuran,

3-(4-isopropylphenyl)-2,4,6,7-tetramethylbenzofuran-5-yl 4-methoxybenzoate,

3-(4-isopropylphenyl)-5-(4-methoxybenzyloxy)-2,4,6,7-tetramethylbenzofuran,

3-(4-isopropylphenyl)-5-(4-methoxybenzyloxy)-1',4,6,7-tetramethylspiro[benzofurar-2(3H),4'-piperidine], or a salt thereof.

14. A process for producing of a compound of Claim 1, which comprises reacting a compound of the formula:



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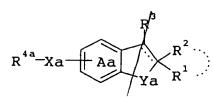
wherein each symbol is as defined in Claim 1, or a salt thereof with a compound of the formula: R^4 -L wherein L represents a leaving group and R^4 is as defined in Claim 1, or salt thereof.

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- 15. A pharmaceutical composition which comprises a compound of Claim 1.
- 16. A composition of Claim 15 which is an agent for suppressing neurodegeneration.
- 17. A composition of Claim 15 which is an agent for suppressing β -anyloid toxicity.
 - 18. A composition of Claim 15 which is an agent for preventing and/or treating neurodegenerative diseases.
 - 19. An agent for preventing and/or treating neurodegenerative diseases which comprises a compound of the formula:



wherein R^1 and R^2 each represents a hydrogen atom or a hydrocarbon group which may be substituted, or R^1 and R^2 form, taken together with the adjacent carbon atom, a 3- to 8-membered carbo or heterocyclic ring which may be substituted; R^3 represents a hydrogen atom, a lower alkyl which may be substituted or an aromatic group which may be substituted;

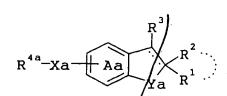
- 10 R^{4a} represents an aromatic group which may be substituted, an aliphatic hydrocarbon group which may be substituted or an acyl;

 Xa represents an oxygen atom or a sulfur atom which may be oxidized;
- Ya represents an oxygen atom, a sulfur atom which may be oxidized or an imino which may be substituted;

 ---- represents a single bond or a double bond;

 ring Aa represents a benzene ring which may be further substituted apart from (i) the group of the formula:
- -Xa-R^{4a} wherein each symbol is as defined above, and

 (ii) an amino which may be substituted,
 provided that when Xa and Ya are oxygen atoms and ____
 is a single bond, R⁴ is not an acyl,
 or a salt thereof.
- 25 20. An agent of Claim 19 which is an agent for suppressing β -amyloid toxicity.
 - 21. An agent of Claim 19 which is an agent for preventing and/or treating neurodegenerative diseases.
 - 22. A method for suppressing neurodegeneration in a mammal, which comprises administering to said mammal an effective amount of a compound of the formula:



wherein R^1 and R^2 each represents a hydrogen atom or a hydrocarbon group which may be substituted, or R^1 and R^2 form, taken together with the adjacent carbon atom, a 3- to 8-membered carbo or heterocyclic ring which may be substituted; R^3 represents a hydrogen atom, a lower alkyl which may be substituted or an aromatic group which may be substituted;

10 R^{4a} represents an aromatic group which may be substituted, an alighatic hydrocarbon group which may be substituted or an acyl;

Xa represents an exygen atom or a sulfur atom which may be oxidized;

Ya represents an oxygen atom, a sulfur atom which may be oxidized or an imino which may be substituted;

---- represents a single bond or a double bond;

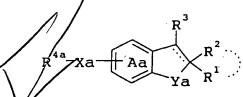
ring Aa represents a benzene ring which may be further substituted apart from (i) the group of the formula:

-Xa-R^{4a} wherein each symbol is as defined above, and

(ii) an amino which may be substituted, provided that when Xa and Ya are oxygen atoms and ____ is a single bond, R' is not an acyl,

or a pharmaceutically acceptable salt thereof with a pharmaceutically acceptable excipient, carrier or

23. Use of a compound of the formula:

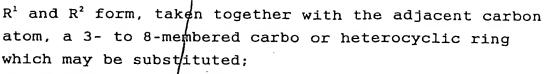


wherein R¹ and R²/each represents a hydrogen atom or a hydrocarbon group which may be substituted, or

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R³ represents a hydrogen atom, a lower alkyl which may be substituted or an aromatic group which may be substituted;

R'a represents an aromatic group which may be substituted, an aliphatic hydrocarbon group which may be substituted or an acyl;

10 Xa represents an oxygen atom or a sulfur atom which may be oxidized;
Ya represents an oxygen atom, a sulfur atom which may be oxidized or an imino which may be substituted;
---- represents a single bond or a double bond;

ring Aa represents a benzene ring which may be further substituted apart from (i) the group of the formula:

-Xa-R^{4a} wherein each symbol is as defined above, and (ii) an amino which may be substituted, provided that when Xa and Ya are oxygen atoms and _____

is a single bond, R' is not an acyl, or a salt thereof for manufacturing a pharmaceutical composition for suppressing neurodegeneration.

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